

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

2. This action is responsive to Applicant's Request for Continued Examination (RCE) filed March 2, 2009. Applicant's RCE amending independent claims 1, 10, 19-20, 30 and 39 is acknowledged.

3. After a thorough search and examination of the present application, and in light of the following:

prior art searched and reviewed;

Examiner's Amendments made April 6, 2009 that was authorized to amend claims 1-3, 10-12, 19-20, 23, 30, 33 and 39; and

a update search on prior art conducted in domains (EAST, NPL-ACM, Google, NPL-IEEE, etc);

Claims 1, 4-10, 13-22, 24-32 and 34-39 (renumbered to 1-33) are allowed.

Examiner's Amendments

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this Examiner's Amendments, listed below was given April 6, 2009 via telephone interview summary with Dr. Ian C. Schick (Registration Number 63,293).

4.1. Please amend claims 1-3, 10-12, 19-20, 23, 30, 33 and 39 as follows:

1. (Currently Amended) A method of moving a file service within a plurality of storage filers coupled to a communication network and a storage network, the method comprising:

generating file service data for the file service in a first storage filer;

associating the file service with an identification;

allocating the file service data to at least one memory page in the first storage filer based on the identification;

determining an indication to transfer the file service from the first storage filer;

determining an optimal time to suspend file operations of the file service;

identifying a second storage filer at least in part by determining whether the second storage filer has adequate memory for the at least one memory page; and

transferring the at least one memory page using the identification from the first storage filer to the [[a]] second storage filer while file operations are suspended during the optimal time.

2-3. (Canceled)

10. (Currently amended) A system for storage filing, the system comprising:

a first storage filer embodied within a server coupled to a communication network and a storage network; and

a second storage filer embodied within another server coupled to the communication network and the storage network;

the first storage filer configured to generate file service data for a file service, associate the file service with an identification, allocate the file service data to at least one memory page in the first storage filer based on the identification, determine an indication to transfer the file service from the first storage filer, determine an optimal time to suspend file operations of the file service, identify a second storage filer at least in part by determining whether the second storage filer has adequate memory for the at least one memory page, and transfer the at least one memory page using the identification from the first storage filer to the second storage filer while file operations are suspended during the optimal time; and

the [[a]] second storage filer configured to receive the at least one memory page.

11-12. (Canceled)

19. (Currently amended) A system for storage filing coupled to a communication network and a storage network, the system comprising:

means for generating file service data for a file service in a first storage filer embodied within a server;

means for associating the file service with an identification;

means for allocating the file service data to at least one memory page in the first storage filer based on the identification;

means for determining an indication to transfer the file service from the first storage filer;

means for determining an optimal time to suspend file operations of the file service;

means for identifying a second storage filer at least in part by determining whether the second storage filer has adequate memory for the at least one memory page, the second storage filer embodied within another server; and

means for transferring the at least one memory page using the identification from the first storage filer to a second storage filer while file operations are suspended during the optimal time.

20. (Currently amended) A method of moving a file service in a first storage filer located between a communication network and a storage network, the method comprising:

determining an indication to transfer a file service from the first storage filer;

identifying an available storage filer to receive the file service at least in part by determining whether the available storage filer has adequate memory for the at least one memory page;

determining an optimal time to suspend file operations of the file service; and

transmitting at least one memory page with file service data of the file service from the first storage filer to the available storage filer using an identification for the file service while file operations are suspended during the optimal time.

23. (Canceled)

30. (Currently amended) A first storage filer located between a communication network and a storage network, the first storage filer comprising:

a processor configured to determine an indication to transfer a file service from the first storage filer, determine an optimal time to suspend file operations of the file service, and identify an available storage filer to receive the file service at least in part by determining whether the available storage filer has adequate memory for at least one memory page;

an interface configured to transmit the at least one memory page with file service data of the file service from the first storage filer to the available storage filer using an identification for the file service while file operations are suspended during the optimal time; and

a memory configured to store the at least one memory page.

33. (Canceled)

39. (Currently amended) A first storage filer located between a communication network and a storage network, the first storage filer comprising:

means to determine an indication to transfer a file service from the first storage filer;

means to identify an available storage filer to receive the file service at least in part by determining whether the available storage filer has adequate memory for at least one memory page;

means to determine an optimal time to suspend file operations of the file service;

and

means to transmit the at least one memory page with file service data of the file service from the first storage filer to the available storage filer using an identification for the file service while file operations are suspended during the optimal time.

Reason for Allowable

5. The following is the Examiner's statement of reasons for allowance:

In the Examiner's Office Action, dated October 28, 2008, the Final Rejection under 35 U.S.C. § 103 rejections was made mainly based on the reference over Cramer et al.:

“OPERATOR INITIATED GRACEFUL TAKEOVER IN A NODE CLUSTER”,

US Patent Number 6,920,579, filed 8/20/2001 and issued 7/19/2005, hereafter

“Cramer”; and in view of Washington: “MEMORY PAGE LOCATION CONTROL FOR MULTIPLE MEMORY-MULTIPLE PROCESSES SYSTEM”, US Patent Number

5,860,116, filed 12/11/1996 and issued 1/12/1999; and Berkowitz et al.: "METHOD AND SYSTEM FOR TRANSPORTING DATA CONTENT ON A STORAGE AREA NETWORK", US Patent Application Publication 2003/0149736, filed 2/7/2002 and published 8/7/2003, hereafter "Berkowitz".

In a response to the Office Action of October 28, 2008, Applicant argued that the cited references fail to teach transferring a memory page using an identification from a first storage filer to a second storage filer while file operations are suspended and the independent claim 1, as amended, sets forth "transferring the at least one memory page using the identification from the first storage filer to a second storage filer while file operations are suspended during the optimal time" (emphasis added). Applicants continued and pointed out that regarding claim 1, the Examiner admits that "Cramer does not explicitly teach transferring the at least one memory page using the identification from the first storage ... to a second storage ...," but asserts that "Washington does teach this limitation." However, Applicants continued to argue that the independent claim 1 sets forth "transferring the at least one memory page ... while file operations are suspended" in which transferring a memory page while file operations are suspended is clearly contrary to the teachings of Berkowitz as described by the Examiner, since Berkowitz instructs writers to not attempt to access or modify a volume of information (e.g., transfer a page) while access requests complete.

Therefore, based at least on the remarks herein, Applicants concluded that independent claim 1 is patentable over the cited references. Additionally, as independent claims 10, 19, 20, 30, and 39 include similar elements to those of independent claim 1, claims 10, 19, 20, 30, and 39 are likewise patentable for at least the same reasons.

Based on the arguments and subject matter as described above, and a further review of the subject matter amended in an Examiner's Amendment and made to each of the independent claims, Examiner is persuaded that features described and highlighted below is distinctive from prior art on transferring the at least one memory page using the identification from the first storage filer to a second storage filer while file operations are suspended during the optimal time.

determining an indication to transfer the file service from the first storage filer;
determining an optimal time to suspend file operations of the file service;
identifying a second storage filer at least in part by determining whether the second storage filer has adequate memory for the at least one memory page; and
transferring the at least one memory page using the identification from the first storage filer to the second storage filer while file operations are suspended during the optimal time.

An update search on prior art in domains (EAST, NPL-ACM, Google, NPL-IEEE, etc) has been conducted. The prior art searched and investigated in the domains (EAST, NPL-ACM, Google, NPL-IEEE, etc) do not fairly teach or suggest teaching of the subject matter as described and highlighted above and disclosed in each of the independent claims 1, 10, 19-20, 30 and 39.

Claims (4-9), (13-18), (21-22 and 24-29) and (31-32 and 34-38) are directly or indirectly dependent upon the independent claims 1, 10, 20 and 30, respectively, and are also distinct from the prior arts for the same reason.

After a search and a thorough examination of the present Application and in light of the prior art, Claims 1, 4-10, 13-22, 24-32 and 34-39 (renumbered to 1-33) are allowed.

Conclusions

5. Any comments considered necessary by Applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Contact Information

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to KUEN S. LU whose telephone number is (571)-272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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Supervisor, Pierre Vital can be reached on (571)-272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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You have questions on access to the Private PAIR system; contact the Electronic

Business Center (EBC) at 866-217-9197 (toll free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, please call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KUEN S. LU /Kuen S Lu/

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Primary Patent Examiner

April 9, 2009